

CENTRAL INTELLIGENCE AGENCY

REPORT

INFORMATION REPORT

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SUBJECT Reparations Orders for Werk für Fernmeldewesen
H.F., Oberspreewerk

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1. Reparations Orders for 1951.

Orders had been received by 26 January by Werk für Fernmeldewesen H.F., Oberspreewerk (SAG Kabel) for the delivery of the following tubes during an unspecified period of 1951:

LD 7	1,000
LD 9	500
LD 11	1,000
LD 12	2,000
IR 260 D	240
6 AC 7	60,000
6 AG 7	50,000
HBO 500	1,000

Gauze for the above LD 11 and LD 12 started to arrive on 12 December 1950 from the TEMA Metallwerke, Neustadt/Orla, which had previously stated that it was unable to deliver. Thirty-six meters, 30 mm wide, had been received by 26 January 1951. No stocks of quartz are held by the OSW and the order for the HBO 500 projection bulbs cannot be undertaken until this has been procured.

2. Tube Production.

a. The metal ceramic tubes sent by the OSW to the Sachsenwerk, Radeberg, have a guaranteed life of 200 hours only. The Sachsenwerk has requested that this should be raised to 10,000 hours, giving as a reason that the sets are to be located in remote localities where it would be difficult to furnish replacements. This improvement could be effected by altering the load on the anode, but there is no prospect of an immediate change in the specification of the tube since preliminary tests of the new design would take over a year.

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[Redacted]

- b. The production of transmitting tubes has come to a standstill, because of a complete lack of zirconium; the monthly requirement is $7\frac{1}{2}$ kg. At present none is being produced in East Germany, but it is hoped to manufacture it from zirconium dioxide. It has not yet been decided which factory will undertake this production.
- c. Last year, the OSV refused a reparations order for 1,000 LD 1 tubes monthly, because of a lack of tungsten pins. Now the RFT Funkwerk, Erfurt, has decided to manufacture this tube (probably to fill this same order) and has ordered tungsten pins from the OSV. It is unlikely that the OSV will be able to supply these.
- d. OSV 2730: The design of this as a triode with "Gitterüberstifte" has been completed. Tests have achieved an output of 1 kW at wave-lengths down to 2 meters. It is now being redesigned with "Gitterschuhbaunauführung" (concentric circles) and it is hoped to reach 1 meter and 1 kW.
- e. OSV 2720: Work on this 10 kW 1 meter tube has been held up by a shortage of skilled glass blowers, 1200 man-hours are required for the glass work on each tube (sic).
- f. RFT Zwickau has placed the following order for 1951:

G 7.5/0.6	300	monthly
S 0.8/21	125	"
STV 280/40	500	"
TV 280/80	250	"
STV 100/40z	200	"
HBO 500	200	"

This factory is manufacturing revolution counters and devices for analysing motion in cotton weaving looms.

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3. Television Program, Sachsenwerk Radeberg.

- a. For these sets the Oberspreewerk has been ordered to produce the tubes which are more difficult to manufacture. The simpler tubes will be supplied from Russia.
- b. A conference was held [Redacted] at which the delivery of tubes and testing equipment for the television receivers being made in Radeberg was discussed. Korotkov stated that the Sachsenwerk had contracted to test and deliver its quota of sets complete with tubes before the end of the month of January. It was decided that the OSV deliver to the Sachsenwerk one test scanner, one transmitter for the third frequency, and two cadence tappers. The Sachsenwerk would build, after a specimen transmitter for the third frequency, three further transmitters, of which two would be for the lower two frequencies and one for the third frequency. The first transmitter (for two frequencies) was ready for delivery to the Sachsenwerk, as was the first cadence tapper. After delivery, the Sachsenwerk would be in a position to test its television receivers.
- c. Radeberg requested delivery of 1,500 sets of tubes in January. The following serious difficulties were cited:
 - 1) The time allowed for developing the tubes was too short.
 - 2) The manufacture of the machine tools necessary for series production of the tubes.
 - 3) The purchase of P.2-Iron 0.3.

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4) The purchase of Indian mica.

5) The purchase of fluorescent materials; a supply for 300 tubes only was held in stock.

6) The purchase of pumps.

d. A conference was held concerning the T.2 program

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The Russians present were Generaldirektor Glybin, Chief Engineer Fedchenko, Chief Accountant Skornyakov, Koslov, Burov of the Nachrichtentechnische Entwicklung und Fabrikation (NEF) and Nevedyev of SAG Kabel.

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1) The following points were made

The program would mean doubling the output of the QEW, including the production of a large number of television tubes.

2) Twenty-five pumping systems would be required. Only 14 were available. Twenty-five would mean a small reserve, if three shifts were worked.

3) Tubes required: Types 6 AC 7, 6 AG 7: 17,000 monthly - great difficulties in manufacture but success expected.
6 BI 7: difficulties with the grid; manufacture of 14,000 monthly would be possible.
6 SJ 7: Prototypes fairly satisfactory.
6 H 8 M: Experiments unsatisfactory.
P 50: The most difficult of the tubes to manufacture; no drawings or tools were provided.
1 Z 1: Prototype not built because of lack of equipment.
Television tubes: Development almost complete; experiments still being made with waterglass and "Schwarzerzte"; one tube is being tested for endurance.

4) Three hundred additional workers would be needed, including 100 in the radio tube section, 60 in the television tube section (70 altogether), 30 in the stamping shop and 20 in the galvanizing shop.

5) The inadequate manpower in the stamping shop was described as a serious bottleneck, and the present methods of working as inadequate for meeting the demands of the 1951 program. Machines were short. A third shift was being forced, but there were an insufficient number of "Dinrichter".

6) Materials needed for the T.2 program included the following:

Radio tube bottleneck materials:

10 tons Tieffzischblech (sheet-drum sheets); 4 tons available, but of poor quality.

1.5 tons nickel wire
2.5 tons soldering tin
5 tons "Zinbaunickel"
2 tons Eisenulver (iron powder)
4 million m. Koviceldraht (motor binding wire)
300,000 m "Korndraht"
1 million m. tungsten wire
1.5 million Glastolben (glass bulbs)
2 tons Glasrohr (glass tubing)
2 million mica plates
200 kg. Alubronze (aluminum bronze)

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Television tube bottleneck materials:

150 kg. Cromnickel Draht u. Blech (crome nickel wire and sheet)
 60,000 Bildröhren-Kolben (picture tubes)
 75,000 "Kolbenhälse"
 100 kg. "Leuchtstoff" H 213
 8.5 tons "Schwarzepaste" (100,000 DM).
 12 kg. Thorium-Pulver (thorium powder)
 1.2 tons Bronzeblech (bronze sheet)
 450 kg. Cu-Ni

7) Collaboration in connection with the program would be necessary with the following:

The Weisswasser glass works for glass bulbs and tubes; outlook good;
 Walzwerk für Buntmetall, Hettstedt, for nickel bands and tubes (outlook very bad), and the help of SAG Kabel or an even more important organization was requested.

Stemap, Berlin, for ceramics; no difficulties.

Isopress for sockets; difficulties with regard to supplies.

LIES for packing of products; raw materials not available.

Testing tables for the P 50 tubes were being made in Erfurt.

8) The tubes must be of especially good quality, since the sets are destined for export to the USSR. The laws of the DDR decree responsibility for poor quality, and under no circumstances must conditions similar to those in Erfurt be allowed to obtain.

4. General

a. Korotkov, a television specialist, arrived from Leningrad in early January 1951 to replace Fedchenko. The latter is expected to leave for the USSR during the first half of February.

b. A Central Control Office (Zentral-Kontrollstelle) under Seidel has been formed to improve the quality of goods manufactured by the OSW. This office is directly responsible to SAG "Kabel" and not to the directorate of the OSW.

c. During 1950, a total of 850,000 radio tubes were manufactured by the OSW, and 590,000 completed and passed inspection for sale. The difference represents the rejected tubes. Special tubes are not included in the above figures.

d. Some production statistics are as follows:

Month	Special Tubes		Radio Tubes	
	Target (1,000 DM (East))	Actual Pro- duction in %	Target (1,000 DM (East))	Actual Pro- duction in %
Dec. 1950	110	350	...	700
Jan. 1951	600	106	1,000	110
Feb. 1951	800	-	1,000	-
Mar. 1951	900	-	1,200	-

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e. A new department for the manufacture of instruments (Abteilung Gerätefertigung) has been formed under the direction of Martin.

f. One hundred vacuum diffusion pumps will be required by the OSW during 1951. These are quite unobtainable in the East Zone, and will be bought from the firm [redacted] 50X1-HUM

g. The design of a linear accelerator originally to be made by the OSW is now being undertaken by the Heinrich Hertz Institute, Berlin-Adlershof.

h. On the occasion of Stalin's birthday in December 1950, the hundredth X-ray tube type IR 260 K to be manufactured in the factory was presented to a Russian officer for forwarding to Stalin. Wilhelm Pieck was also presented with an IR 260 K valve on his birthday in January 1951. By an astonishing coincidence this tube also bore the serial number one hundred.

i. A sitdown strike lasting several hours occurred in one of the tube manufacturing departments on 23 January. The workers should have received their two-week pay on 22 January. They did not, and they were told on the following morning that there was no money and they could not be paid. All the workers in this section, about 200 girls, went on strike and greeted with abuse the trades union officials and even Director Miller who tried to persuade them to continue work. They resumed work after they had been paid on the afternoon of 23 January.

APPENDIXTube production provisionally planned by the Oberspreewerk for the First Quarter of 1951.

The following list was brought up to date to approximately 1 January 1951, that is, to shortly before the receipt of the reparations order mentioned in paragraph 1.

<u>Rectifier tubes</u>		<u>Technical triodes</u>	
OSW 3107 (5 Z 4)	7,000	OSW 2004 (LD 12)	2,600
OSW 3118 (A z1)	-	OSW 2116 (LD 11)	450
OSW 3121 (AZ 11)	2		
OSW 3116 (6 X 5)	1,800	<u>Technical pentodes</u>	
OSW 3136 (1 Z 1)	18,000	OSW 2582 (LV 3)	1,200
<u>Duodiodes</u>		<u>X-Ray tubes</u>	
OSW 3109 (6 H 6)	3,500	OSW 3706 (JR 260 K)	150
<u>Triodes</u>		<u>Cathode ray tubes</u>	
OSW 3112 (6 J 5)	5,000	OSW 2146 (12" ♂)	15
		OSW 2789 (9" ♂) desired	9,000
		OSW 2068 b	30
<u>Tetrodes and Pentodes</u>		<u>Rare gas tubes:</u>	
OSW 3106 (6 V 6)	7,000		
OSW 3108 (6 L 6)	4,400	<u>Nich tension and super tension tubes</u>	
OSW 3103 (AL 4)	-	OSW 2523 (HBO 500)	600
OSW 3117 (CL 4)	-	OSW 3205 (HQA 500)	300
OSW 3135 (6 F 6)	-	OSW 3201 (HJE 50)	300
OSW 2190 (6 AC 7)	65,000	OSW 3209 (PRK-2)	2,600
OSW 2192 (6 AG 7)	13,000	OSW 3210 (PRK -4)	2,000
OSW 3111 (6 SK 7)	10,000		
OSW 3119 (A F 7)	-		
OSW 3128 (6 SH 7)	37,000	<u>Neon light tubes and incandescent cartridges (Glimzylinder)</u>	
OSW 3127 (6 SJ 7)	1,500	OSW 2499 (MHR) not yet	
OSW 3137 (P 50)	10,000	OSW 2609) decided.	

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<u>Hentodes</u>		<u>High tension and glow-cathode rectifier</u>	
OSW 3104 (6 SA 7)	25,000	OSW 3541 (N110/20)	300
<u>Modulation indicator tube</u>		OSW 3102 (AG 1006)	180
OSW 3110 (6 E 5)	3,500	OSW 3432 (S0.8/211II)	300
<u>"Verbundröhren"</u>		OSW 3433 (S1.0/211IA)	1,800
OSW 3125 (6 E 8)	10,000	OSW 3418 (S5/20i)	30
(6 SQ)	1,800	OSW 3415 (S15/40i)	55
<u>Duo-triodes</u>		OSW 3401 (G7.5/0.6d)	900
OSW 3129 (6 H 8 M)	42,000	OSW 3402 (G 10/4)	400
<u>Transmission tubes</u>		OSW 3413 (S 5/6i)	50
OSW 3123 (RS 720)	30	<u>Stabilizers</u>	
OSW 3114 (RS 558)	2	OSW 3801 (STV 70/6)	600
OSW 3113 (RS 566)	20	OSW 2450 (STV 150/40z)	450
<u>Short wave triodes</u>		OSW 3806 (STV 280/40)	2,000
OSW 3101 (TS 41)	900	OSW 3808 (STV 280/80)	850
		OSW 3811 (STV 100/40z)	600

Notes on tubes mentioned above:

1 Z 1 Russian rectifier tube for use in television receivers; 3 mA., 20 KV.
 6 F 6 Similar to EF 12.
 6 AG 7) 1500 of each for Radeberg for TV receivers.
 6 AC 7) Similar to the 6 SN 7.
 P 50 Russian tube, similar to the German LS 50.
 RS tubes All for the German Post Office
 TS 41 For Dresden firm (Elmod?) ID 11 & 12; for Radeberg.
 OSW 2789 For Radeberg for TV receivers
 STV tubes For Zwickau and Radeberg

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